

POST-HARVEY POLLUTION RESPONSE

Best Management Practices (BMPs) for the protection of sensitive Ecological & Cultural Resources

Environmental Unit (EU)

All operations shall be conducted with the overarching philosophy of “do no more harm than good”. Many of the following BMPs are provided for the protection of Federal & State protected species and other sensitive resources. For species identification, refer to the “EU Guidance on Threatened/Endangered Species”.

For all Field Operations

Cultural Resource Protection:

- Any Native American graves or burials must be reported to the State Historic Preservation Office: Texas Historical Commission (**POC – Amy Borgens**); Louisiana .
- Native American and historic-era artifacts (e.g. pot shards & arrowheads) must not be collected.
- When activity occurs within 250 meters of a sensitive cultural resource as indicated by EU, a qualified archaeologist or other qualified historic preservation professional must be present to monitor the work.

Natural Resource Protection:

- Do not disturb wildlife or habitat (including foraging or nesting areas).
- Perform site visits & work from waterway, paved surfaces or existing roadways whenever possible to minimize impacts to sensitive habitats.
- Select vehicles and equipment which are least likely to disturb soils/sediments and keep loading to a minimum to reduce ground pressure (on unpaved surfaces).
- Sensitive, non-ecological sites (i.e. cultural, historical, pipelines, water control structures, etc.) must be avoided unless otherwise authorized. EU will identify sensitive sites in the vicinity of actionable targets, though all field personnel should take care when transiting to and from actionable targets.
- Avoid minimize the release of contaminants from orphaned containers into critical habitat and other aquatic areas.
- Removal of orphan pollution containers from sensitive habitats may require specialized operations to minimize impacts. Such operations shall be closely coordinated with Environmental Unit.

Wildlife Impacts:

- Watch for and avoid collisions with wildlife.
- Remove all personal & Response trash or anything that would attract wildlife to work areas.
- Any fish or wildlife injured or killed during response activities, or discovery of these killed or injured resources during response operations, must be reported to the appropriate Resource Agency and the Trustees for proper determination and action. **USFWS contact. TPWD contact**
- All oiled wildlife (dead or alive) should be reported immediately to **[oiled wildlife contact info here]**
- Impacts to fish and wildlife should also be documented on **TPWD's Fish Kill and Injured/Oiled Wildlife Form**
- Report any distressed or dead marine mammals or sea turtles to the stranding networks:

Louisiana Marine Mammal Stranding Hotline

504-235-3005



Texas Marine Mammal Stranding Network Hotline

800-9MAMMAL (800-962-6625) or 877-433-8299



Louisiana Sea Turtle Stranding and Salvage Network Contact

225-765-2377



Texas Sea Turtle Stranding and Salvage Network Contact

361-949-8173 ext. 226 or 866-TURTLE-5 (866-887-8535)



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For Specific Response Activities

Aerial Operations:

- Avoid hovering or landing aircraft in/near posted bird sites or areas with high bird concentrations.
- No flights below 500 feet over Wildlife Refuges, Management Areas, bird rookeries or National Parks.
- Removal by helicopter should be considered if the container is located in the middle of an expanse of marsh in which access will result in a high impact to the resource.

Open-water Operations (includes intertidal):

- Do not block major egress points in channels, rivers, passes, and bays.
- Access over or into areas containing oyster beds should be restricted to shallow draft boats or barges. Care should be taken to avoid prop washing.
- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.
- All vessel approaches to the marshes shall be limited to grounding the bow of the vessel on the fringe of the marsh, avoiding landing directly on top of the marsh grasses as much as possible.
- Special Use Permits are required for conducting Air Boat operations in National Wildlife Refuges. Contact EU to ensure proper permits have been obtained.
- If using Air Boats, maintain a distance of 1,000 feet from critical habitats, rookeries, and/or other high bird use areas to minimize disturbance.
- Monitor boom, lines & underwater equipment regularly to prevent fish/wildlife entanglement/entrapment.
- If a sea turtle or marine mammal is observed trapped or entangled in a boom, line, or anchoring systems, open the boom to free the animal and notify the Wildlife Branch & Environmental Unit.
- Watch for and avoid collisions with sea turtles and dolphins.

Land-based Operations (includes river levees, battures and spoil banks):

- Minimize ground-disturbing activities to as small an area as feasible to complete the task.
- Avoid posted/marked or other high bird use areas and minimize activities in critical habitat areas for Endangered Species.
- When working on/near sand beaches, do not disturb Piping Plovers (**if they flush, you are too close**).

Marsh Operations - Protect marsh vegetation & associated soils by doing the following:

- Maximize use of open water, dikes, existing roads and trails and stay away from undisturbed marsh.
- Avoid disturbing vegetation, marsh soils, or peat with foot traffic/boats/equipment.
- Access into marshes should be minimized to avoid disturbing the root systems that could lead to shoreline erosion, water quality degradation, and turbidity. Landings should be made outside of marshes or in areas of the least density.
- Vehicles with wide tracks, wide tires, or specially designed and temporary mats should be used to spread out the weight of equipment and reduce compression.
- Do not create unnatural ruts, channels, dikes or drainage routes and do not re-use previously made tracks. Multiple trips through the same area should be avoided. Plan ahead to reduce trips. Ruts will occur regardless of precautions taken, so be prepared to repair them. Air boats can be effective in smoothing ruts.
- Use care around bank and shoreline crossings at canals, natural water bodies and ditches.
- Travel corridors should be as narrow as possible with designed turn around area. Stay within designated access or travel lanes when present.
- Minimize removal of clean sediment, seaweed and natural debris. Replace removed materials, if practical.
- Use low-pressure tire vehicles (e.g. ATVs, Gators) when practical and consult with the EU to minimize impact.
- Avoid posted/marked or other high bird use areas and minimize activities in critical habitat areas for Endangered Species.
- Activities that may require removal of forested and shrub or scrub habitat should be minimized.

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- Any foot traffic access to the marshes shall avoid oiled grasses and sediments and utilize one-way-in and one-way-out traffic with walking boards in travel lanes and crosswalks on the marsh.
 - All foot traffic in oiled marshes will be done on the walking boards, with no direct foot traffic in the marsh. Walking boards should not be placed in un-oiled marsh areas, and no foot traffic or other entry by response personnel or equipment should occur in these un-oiled areas unless approved by the Unified Command.
 - If pollution target location is inaccessible or access with heavy equipment would result in unacceptable habitat damage relative to that posed by the pollution threat, then specialized operations may be needed to minimize impacts. Such operations shall be closely coordinated with Environmental Unit.
 - Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.